

## Complete Summary

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### GUIDELINE TITLE

ACR Appropriateness Criteria™ for evaluation of multiple gestations.

### BIBLIOGRAPHIC SOURCE(S)

American College of Radiology (ACR), Expert Panel on Women's Imaging. Evaluation of multiple gestations. Reston (VA): American College of Radiology (ACR); 2001. 11 p. (ACR appropriateness criteria). [20 references]

### GUIDELINE STATUS

This is the current release of the guideline.

All Appropriateness Criteria™ are reviewed annually and updated as appropriate.

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Multiple gestations

Note: For simplicity and clarity, the appropriateness criteria have been applied to twin pregnancies initially diagnosed in the second trimester. They are applicable to twins first identified in the third trimester with little if any alteration of the schema. For twins identified in the first trimester, a scan for detailed anatomic evaluation and comparative growth is recommended at 18-20 weeks, with other aspects of these guidelines applicable thereafter. Triplet and higher order multiple gestations are not specifically addressed, but these should all be treated as very high-risk pregnancies.

### GUIDELINE CATEGORY

Diagnosis  
Evaluation

#### CLINICAL SPECIALTY

Obstetrics and Gynecology  
Radiology

#### INTENDED USERS

Physicians

#### GUIDELINE OBJECTIVE(S)

To provide recommendations for the appropriate modalities (sonographic and others) and the timing and frequency of their use for the assessment of the health status of multiple gestations

#### TARGET POPULATION

Women with multiple gestations (specifically, women with twin pregnancies initially diagnosed in the second trimester)

#### INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. Ultrasound diagnosis of multiple gestation
  - Characterization of type of twinning
  - Determination of chorionicity and amnionicity
  - Assessment of size of each twin and degree of discordance
2. Timing of follow-up ultrasound examinations
3. Additional evaluations
  - Assessment of amniotic fluid for each twin
  - Assessment of cervix
  - Umbilical artery Doppler for each twin
  - Biophysical profile for each twin
  - Nonstress test for each twin

#### MAJOR OUTCOMES CONSIDERED

Diagnostic utility (i.e., sensitivity, specificity) of ultrasound techniques

### METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

#### NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

#### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Not Given)

#### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

#### METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

#### DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

#### METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

#### DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the most to the least appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and

weaknesses of each test or procedure are discussed and consensus reached whenever possible.

#### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

#### COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

#### METHOD OF GUIDELINE VALIDATION

Internal Peer Review

#### DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria.

### RECOMMENDATIONS

#### MAJOR RECOMMENDATIONS

##### ACR Appropriateness Criteria™

Clinical Condition: Multiple Gestations

Variant 1: Indications for use of ultrasound to diagnose multiple gestations.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Pregnancy Circumstances		
Large for dates pregnancy	9	
Pregnancy as result of assisted reproductive techniques	9	
Pregnancy with family history of twins	6	
All pregnancies	6	
Other		Elevated maternal serum alpha-fetoprotein may be due to multiple gestation, as well
<u>Appropriateness Criteria Scale</u>		

Radiologic Exam Procedure	Appropriateness Rating	Comments
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

Variant 2: Initial ultrasound has diagnosed twins on the same scan

Radiologic Exam Procedure	Appropriateness Rating	Comments
On the Same Scan		
Determine chorionicity and amnionity	9	
Assess twin sizes and discordancy	9	
Assess amniotic fluid for each	9	
Assess cervix	9	
Umbilical artery Doppler for each	3	
Other		Detailed anatomic survey of each twin is also indicated. Fetal anomalies are more frequent in twins than in singletons.
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 3: First ultrasound: dichorionic twins, concordant

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
At 26-28 weeks only, if still concordant	8	
At 30-32 weeks only, if still concordant	7	
Every 6 weeks	6	
Every 4 weeks	4	
Every 3 weeks	2	
Every 2 weeks	1	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Umbilical artery Doppler for each twin	3	
Biophysical profile for each twin	3	
Nonstress test for each twin	3	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 4: First ultrasound: monochorionic twins, concordant

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 4 weeks	6	Although there was no consensus on the exact timing of follow-up, the trend favored periodic scans at 3-6 week intervals.
Every 6 weeks	4	
Every 3 weeks	3	
Every 2 weeks	2	
At 26-28 weeks only, if still concordant	1	
At 30-32 weeks only, if still concordant	1	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Umbilical artery Doppler for each twin	3	
Biophysical profile for each twin	3	
Nonstress test for each twin	3	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 5: First ultrasound: monoamniotic twins, concordant.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 4 weeks	7	Although there was no consensus on the exact timing of follow-up, the trend favored periodic scans at 3-4 week intervals.
Every 3 weeks	6	
Every 2 weeks	4	
Every 6 weeks	3	
At 26-28 weeks only, if still concordant	2	
At 30-32 weeks only, if still concordant	2	
Evaluate on Follow-up Scans		
Assess amniotic fluid	9	There is a single amniotic cavity for both twins together.
Assess cervix	9	
Umbilical artery Doppler for each twin	3	
Biophysical profile for each twin	3	
Nonstress test for each twin	3	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 6a: First or subsequent ultrasound: 5% twin discordance

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 4 weeks	7	
At 26-28 weeks only, if still concordant	6	
Every 6 weeks	6	
At 30-32 weeks only, if still concordant	3	
Every 3 weeks	2	
Every 2 weeks	1	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Umbilical artery Doppler for each twin	3	
Biophysical profile for each twin	3	
Nonstress test for each twin	3	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 6b: First or subsequent ultrasound: 10% twin discordance

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 4 weeks	7	
Every 6 weeks	6	
Every 3 weeks	2	
Every 2 weeks	2	
At 26-28 weeks only, if still concordant	2	
At 30-32 weeks only, if still concordant	2	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Umbilical artery Doppler for each twin	4	
Biophysical profile for each twin	4	
Nonstress test for each twin	3	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 6c: First or subsequent ultrasound: 15% twin discordance

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 3 weeks	7	It is possible for both twins to



Radiologic Exam Procedure	Appropriateness Rating	Comments
		be growth-restricted. If the larger twin is below 10% by weight for gestational age by menstrual dates and/or a first sonogram, increased pregnancy surveillance is indicated, even if the twins are close to concordant.
Every 4 weeks	4	
Every 2 weeks	3	
Every 6 weeks	3	
At 26-28 weeks only, if still concordant	2	
At 30-32 weeks only, if still concordant	2	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Umbilical artery Doppler for each twin	7	
Biophysical profile for each twin	5	
Nonstress test for each twin	4	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 6d: First or subsequent ultrasound: 20% twin discordance

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 3 weeks	8	It is possible for both twins to be growth-restricted. If the larger twin is below 10% by weight for gestational age by menstrual dates and/or a first sonogram, increased pregnancy surveillance is indicated, even if the twins are close to concordant.
Every 2 weeks	7	
Every 4 weeks	3	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Every 6 weeks	1	
At 26-28 weeks only, if still concordant	1	
At 30-32 weeks only, if still concordant	1	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Umbilical artery Doppler for each twin	8	
Biophysical profile for each twin	8	
Nonstress test for each twin	8	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 6e: First or subsequent ultrasound: 25% twin discordance

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 2 weeks	8	It is possible for both twins to be growth-restricted. If the larger twin is below 10% by weight for gestational age by menstrual dates and/or a first sonogram, increased pregnancy surveillance is indicated, even if the twins are close to concordant.
Every 3 weeks	7	
Every 4 weeks	1	
Every 6 weeks	1	
At 26-28 weeks only, if still concordant	1	
At 30-32 weeks only, if still concordant	1	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Biophysical profile for each	9	

Radiologic Exam Procedure	Appropriateness Rating	Comments
twin		
Nonstress test for each twin	9	
Umbilical artery Doppler for each twin	8	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 7: First or subsequent ultrasound: oligohydramnios in one or both sacs

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 2 weeks	9	
Every 3 weeks	2	
Every 4 weeks	1	
Every 6 weeks	1	
At 26-28 weeks only, if still concordant	1	
At 30-32 weeks only, if still concordant	1	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Biophysical profile for each twin	9	
Nonstress test for each twin	9	
Umbilical artery Doppler for each twin	8	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 8: First or subsequent ultrasound: anomaly in a twin

Radiologic Exam Procedure	Appropriateness Rating	Comments
Timing of Follow-up Scans		
Every 3 weeks	8	The frequency of follow-up

Radiologic Exam Procedure	Appropriateness Rating	Comments
		depends on the type and severity of anomaly. The listed ratings are for a serious anomaly, which might affect the well-being of one or both twins.
Every 4 weeks	7	
Every 2 weeks	4	
Every 6 weeks	2	
At 26-28 weeks only, if still concordant	2	
At 30-32 weeks only, if still concordant	2	
Evaluate on Follow-up Scans		
Assess amniotic fluid for each twin	9	
Assess cervix	9	
Umbilical artery Doppler for each twin	4	
Biophysical profile for each twin	4	
Nonstress test for each twin	3	
<u>Appropriateness Criteria Scale</u>  1 2 3 4 5 6 7 8 9  1=Least appropriate 9=Most appropriate		

Variant 9: Parameters to measure for twin discordance

Radiologic Exam Procedure	Appropriateness Rating	Comments
Measurement Parameter		
Weight	9	
Abdominal circumference	9	
Biparietal diameter	8	
Head circumference	8	
Femur	8	
Head/abdomen circumference ratio	4	
Femur/abdomen circumference ratio	3	
<u>Appropriateness Criteria Scale</u>		

Radiologic Exam Procedure	Appropriateness Rating	Comments
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

Variant 10: Tables to use for twin measurement

Radiologic Exam Procedure	Appropriateness Rating	Comments
Measurement Tables		
Same tables as for singletons	8	
Specific twin-generated tables	3	
<u>Appropriateness Criteria Scale</u>		
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

All multiple gestations are high-risk as compared with singleton pregnancies. Dichorionic twin pregnancies, all of which must also be diamniotic, are the safest form of twinning and carry a 10% risk that one or both fetuses will not survive beyond the neonatal period. When twins share one placenta—monochorionic-diamniotic twinning—that risk increases to 25%, with the increased mortality due to complications related to blood vessel communications between the cardiovascular circulations of the individual twins. These conditions include twin-twin transfusion syndrome, twin embolization syndrome, and acardius, or twin-reversed arterial perfusion sequence. When twins also share the same compartment—monochorionic-monoamniotic twinning—the loss rate jumps to 50%, with the incremental mortality attributable to cord entanglement accidents.

The major sources of morbidity and mortality common to all twin gestations are prematurity and intrauterine growth restriction, which may affect one or both fetuses. There may be an earlier onset to placental postmaturity complications. There is also an increased incidence of congenital anomalies among all twins, although anatomic malformations occur 4-5 times as frequently in monozygotic as in dizygotic twins. All categories of perinatal morbidity and mortality among twins occur with even greater frequency in higher order multiple gestations.

It has been the task of the guideline committee to determine, by evaluation of the medical literature and use of consensus techniques, the appropriate modalities (sonographic and others) and the timing and frequency of their use for the assessment of the health status of multiple gestations. For simplicity and clarity, the appropriateness criteria have been applied to twin pregnancies initially diagnosed in the second trimester. They are applicable to twins first identified in the third trimester with little if any alteration of the schema. For twins identified in the first trimester, a scan for detailed anatomic evaluation and comparative growth is recommended at 18-20 weeks, with other aspects of these guidelines applicable thereafter.

Triplet and higher order multiple gestations are not specifically addressed, but these should all be treated as very high-risk pregnancies. Growth scans should be performed no less frequently than every 3-4 weeks. Some form of fetal monitoring, probably best accomplished by some variant of the sonographic biophysical profile (since it is very difficult to confirm that nonstress tests have successfully interrogated each fetus of a triplet or greater multifetal pregnancy), should be considered on a weekly or more frequent basis once the pregnancy has reached the point of potential postnatal viability. Even closer surveillance may be indicated if there is a monochorionic or monoamniotic twin pair as part of the multifetal pregnancy, particularly if there is discordance in fetal sizes or amniotic fluid volumes.

Firm indications for use of sonography to diagnose multiple gestations include those pregnancies that measure larger than anticipated by menstrual dates and all pregnancies conceived with assisted reproductive techniques. A less strong, but possible, indication is pregnancy when there is a family history of spontaneous twins. Some would argue that the timely diagnosis of multiple gestations, and the consequent alteration of obstetrical management could be used to consider sonographic second trimester screening of all pregnancies, but no statistically significant fetal benefits were demonstrated in the recent RADIUS trial. Elevation of maternal serum alpha-fetoprotein is an indication for sonography, and one of the causes for a high value is multiple pregnancy.

Once a twin pregnancy is diagnosed, sonography is an important method by which to characterize the type of twinning that has occurred, and to identify prognostic indicators of possible adverse outcome. During the scan that has diagnosed twins, it is necessary to attempt to determine chorionicity and amnionicity; assess the size of each twin and the degree of discordance, if any, between them; evaluate the amount of amniotic fluid for each; and image the cervix to check for changes of effacement or dilatation. On each indicated follow-up sonogram, it remains equally important to measure twins for development of discordance, and to evaluate the cervix and each twin's amniotic fluid. Unless there is evidence of significant growth restriction or fluid volume abnormality for one or both twins, it is probably not indicated to perform umbilical artery Doppler waveform analysis (UAD), biophysical profile (BPP) or nonstress test (NST) on the twins. It is similarly important and possible to determine chorionicity and amnionicity in triplet pregnancies.

The timing and frequency of follow-up sonograms should be adjusted based on the chorionicity and amnionicity of the twin pregnancy, attempting to minimize the number of scans performed, unless growth or fluid disturbances indicate a need for closer surveillance. There was no consensus on the ideal study intervals, but there were definite opinion trends for concordant twins without detected sonographic complicating factors. For dichorionic-diamniotic twins, a single follow-up scan in the first portion of the third trimester, 26-32 weeks, is most probably sufficient, although some preferred periodic scans at 6-week intervals. For monochorionic-diamniotic twins, there was a definite preference for sequential scans at timed intervals between 3 and 6 weeks, with 4-week or longer intervals most commonly selected. The scanning pattern recommendation for monochorionic-monoamniotic twins was similar, between 3 and 6 weeks, but with 3 to 4 week intervals preferred.

The necessary parameters to measure or calculate in assessing the likelihood of intrauterine growth restriction include weight determination and abdominal circumference measurement. Biparietal diameter, head circumference and femur length are all indicated, but ratios of head or femur to abdominal circumference are probably not needed. The use of the same measurement tables developed for singleton pregnancies is indicated for twins rather than tables specifically generated for twins. Twin pregnancies are at greater risk of intrauterine growth restriction, which may affect one or both fetuses, and there is concern that growth tables for twins, which do show smaller measurements than singletons in the third trimester, may be incorporating tendencies toward growth restriction within their normal values. It is important to remember that twins can be concordantly growth-restricted, and if both are becoming small for dates on follow-up sonograms, protocols for monitoring fetal well-being will still be indicated, just as they would be in significantly discordant twins.

Twin discordance is considered mild if weight estimates for the twins are 15% different, moderate if 20% different, and severe if 25% different or greater. For mild discordance, scans for growth at 3-week intervals with use of umbilical artery Doppler analysis are probably indicated. For moderate discordance, scans for growth at 2 to 3 week intervals should be considered, and UAD, BPP, and/or NST are indicated. When discordance is severe, growth scans at 2-week intervals are preferred, with BPP and/or NST necessary and UAD also indicated. If both twins have fallen below the 10th percentile for gestational age relative to menstrual dates and/or dating by the initial sonogram, that should also be taken as an indication for increased surveillance of growth and fetal health.

Testing for fetal well-being by BPP and NST are generally performed weekly, twice weekly, or even more frequently when there is strong clinical concern for imminent fetal decompensation. Umbilical artery Doppler is, in general, not a rapidly fluctuating or deteriorating parameter, but rather a long-term predictor of the status of the uteroplacental circulation. As such, it has prognostic significance for the likelihood of growth restriction and perinatal morbidity and mortality, but probably does not need to be evaluated more frequently than once per month.

Oligohydramnios in one or both amniotic sacs is an important risk factor for poor perinatal outcome. In monochorionic twins, oligohydramnios for one fetus may indicate severe growth restriction if amniotic fluid for the other is normal, or it may indicate the possibility of the twin-twin transfusion syndrome if the other twin has polyhydramnios. With oligohydramnios, growth scans are needed every 2 weeks, and frequent well-being assessment by BPP and/or NST is also necessary. UAD, at appropriate intervals, is also indicated.

Closer surveillance of twin pregnancies in which one or both twins have anatomic anomalies is also indicated, generally at 3 to 4 week intervals. The intervals and the potential use of UAD, BPP, and/or NST should be based on the specific abnormality present and the likelihood that it would affect fetal well-being or amniotic fluid volume.

The evaluation of multiple gestations is a challenging and important task. The intensity of the obstetrical management of such pregnancies must be titrated to the degree of risk present in each individual case. The number of fetuses present, their chorionic and amniotic status, and the identification of risk factors such as

growth restriction of one or more fetuses, amniotic fluid alterations, and presence of fetal anomalies must all be taken into account. These parameters will all affect the frequency of growth assessment, the intensity of surveillance for fetal well-being, and the institution of pharmacological and other medical therapeutic interventions. Ultrasonographic imaging, together with its associated techniques for monitoring fetal compensation or distress, serves as the mainstay for the evaluation of the complexities of each multifetal pregnancy, helping the obstetrician chart a course toward a successful outcome.

#### Anticipated Exceptions

None

#### CLINICAL ALGORITHM(S)

None provided

### EVIDENCE SUPPORTING THE RECOMMENDATIONS

#### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

### BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

#### POTENTIAL BENEFITS

Appropriate use of sonographic and other modalities for the assessment of health status of multiple gestations

#### POTENTIAL HARMS

Not stated

### QUALIFYING STATEMENTS

#### QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other coexistent diseases or other medical consequences of this condition are not considered in this document. The



availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the United States Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

### IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Staying Healthy

### IOM DOMAIN

Effectiveness  
Timeliness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

American College of Radiology (ACR), Expert Panel on Women's Imaging. Evaluation of multiple gestations. Reston (VA): American College of Radiology (ACR); 2001. 11 p. (ACR appropriateness criteria). [20 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2001

#### GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

#### SOURCE(S) OF FUNDING

American College of Radiology

#### GUIDELINE COMMITTEE

Expert Panel on Women's Imaging

#### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Harris Finberg, MD; Ellen Mendelson, MD; Marcela Böhm-Vélez, MD; Robert Bree, MD; Elliot K. Fishman, MD; Hedvig Hricak, MD, PhD; Faye Laing, MD; Amy Thurmond, MD; Steven Goldstein, MD

#### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

#### GUIDELINE STATUS

This is the current release of the guideline.

All Appropriateness Criteria™ are reviewed annually and updated as appropriate.

#### GUIDELINE AVAILABILITY

Electronic copies: Available Portable Document Format (PDF) from the [American College of Radiology \(ACR\) Web site](#).

Portable Digital Assistant (PDA) Version: ACR Appropriateness Criteria™ - Anytime Anywhere (PDA version) available from the [American College of Radiology \(ACR\) Web site](#).

Print copies: Available from the American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

#### AVAILABILITY OF COMPANION DOCUMENTS

None available

#### PATIENT RESOURCES

None available

#### NGC STATUS

This NGC summary was completed by ECRI on November 19, 2004. The information was verified by the guideline developer on December 21, 2004.

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